

#### F. Make a conclusion

- If the  $X^2$  value that you calculated in Step 3 is higher than the critical number at the  $p = 0.05$  level then you can reject the null hypothesis. In other words, there is a statistically significant difference between the observed and expected results. (i.e. the observed results do not match the expected results)  
*Note: A high  $X^2$  value corresponds with a low  $p$  value (below 0.05)*
- If the  $X^2$  value is less than the critical number then you fail to reject the null hypothesis. In other words, there MAY NOT be a statistically significant difference between the observed and expected results (i.e., any differences between the observed and expected results are probably due to chance alone.)  
*Note: A low  $X^2$  value corresponds with a high  $p$  value (above 0.05)*

What is your conclusion for this Chi square test? (Do you reject or fail to reject the null hypothesis?)

Reject the Null Hypothesis

What does that mean in the context of this experiment? (Make sure to mention the alternate hypothesis in this section).

*supports the Alternate Hypothesis* - There is a statistically significant difference between the # of Nations entering the TTX vs. normal nerve cells